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# Pericardial/Myocardial Disease

## NON-INVASIVE IDENTIFICATION OF SENILE SYSTEMIC AMYLOIDOSIS: INCREMENTAL DIAGNOSTIC ROLE OF 99MTC-DPD SCINTIGRAPHY

ACC Moderated Poster Contributions
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**Background:** Senile systemic amyloidosis (SSA), due to intramyocardial deposition of wild-type transthyretin (TTR), is often mistaken as hypertensive heart disease (HHD) or hypertrophic cardiomyopathy (HCM). In patients with amyloidotic cardiomyopathy 99mTc-DPD scintigraphy can differentiate between TTR (mutant and wild-type) and primary amyloidosis. We assessed the diagnostic performance of 99mTc-DPD scintigraphy in the non-invasive identification of SSA in a clinical context of elderly patients with unexplained concentric left ventricular (LV) "hypertrophy".

**Methods:** Patients undergone 99mTc-DPD scintigraphy in 2004-2010 for suspected SSA were included in the analysis. SSA was suspected in patients > 65 years with unexplained concentric LV "hypertrophy" (end-diastolic mean wall thickness > 14 mm) and non-dilated LV, who also presented one or more of: male gender; thickened atrio-ventricular valves; mild pericardial effusion; granular sparkling myocardial appearance; absent or mild LV hypertrophy on ECG. All patients with an already definite diagnosis able to explain LV wall thickness increase were excluded. Myocardial uptake of 99mTc-DPD (740 MBq iv) was semiquantitatively/visually assessed at 5 min/3 h.

**Results:** A total of 62 patients entered the analysis: 32 with SSA, 14 with hereditary TTR-related amyloidosis (ATTR) and exclusively cardiac phenotype and 16 with non-amyloidotic LV "hypertrophy" (9 HCM, 6 HHD, 1 Anderson-Fabry disease). 99mTc-DPD scintigraphy tested positive for myocardial uptake in all cases with TTR amyloidosis (both mutant and wild-type). No myocardial uptake of the tracer was apparent in non-amyloidotic LV hypertrophy. Sensitivity and specificity of positive 99mTc-DPD myocardial tracer uptake (i.e. visual score ≥1) for the diagnosis of SSA and ATTR were both 100%.

**Conclusions:** In elderly patients with unexplained concentric LV "hypertrophy", 99mTc-DPD scintigraphy can provide a highly accurate technique able to increase the diagnostic performance of echocardiography in the non-invasive identification of TTR-related (both mutant and wild-type) amyloidotic cardiomyopathy.